Volunteer Lake Assessment Program Individual Lake Reports

BAPTIST POND, SPRINGFIELD, NH

MORPHOMETRIC DATA

Watershed Area (Ac.):	1,664	**Max. Depth (m):**	7.5	**Flushing Rate (yr^{-1}):**	3.7
Surface Area (Ac.):	99	**Mean Depth (m):**	2.4	**P Retention Coef:**	0.56
Shore Length (m):	2,900	**Volume (m^3):**	972,500	**Elevation (ft):**	1266

TROPHIC CLASSIFICATION

Year	Trophic class
1980	MESOTROPHIC
1996	MESOTROPHIC

KNOWN EXOTIC SPECIES

The Waterbody Report Card tables are generated from the 2012 305(b) report on the status of N.H. waters, and are based on data collected from 2001-2011.

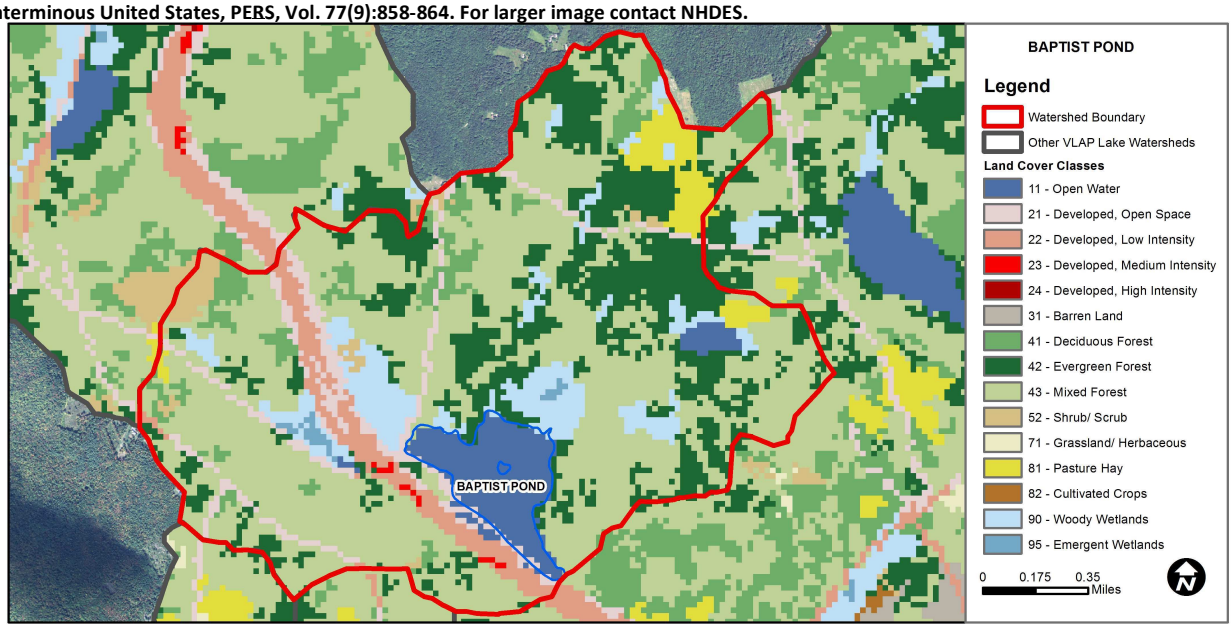
Designated Use	Parameter	Category	Comments
Aquatic Life	Phosphorus (Total)	Slightly Bad	>/=5 samples and median is >threshold.
	pH	Slightly Bad	>10% of samples exceed criteria by a small margin (minimum of 2 exceedances).
	D.O. (mg/L)	Encouraging	< 10 samples and no exceedance of criteria. More data needed.
	D.O. (% sat)	Slightly Bad	>10% of samples exceed criteria by a small margin (minimum of 2 exceedances).
	Chlorophyll-a	Slightly Bad	>5 samples and median is > threshold.
Primary Contact Recreation	E. coli	Good	Geometric means < criteria; however at least 1 exceedance of the single sample criteria occurred.
	Chlorophyll-a	Very Good	At least 10 samples with 0 exceedances of criteria.

BEACH PRIMARY CONTACT ASSESSMENT STATUS

BAPTIST POND - CAMP SUNAPEE	E. coli	Very Good	All bacteria samples <75% of geometric mean criteria, but not enough to calculate geometric mean. Or, all bacteria samples are < single sample criteria and calculated Geometric means are less than geometric mean criteria.

WATERSHED LAND USE SUMMARY

Fry, J., Xian, G., Jin, S., Dewitz, J., Homer, C., Yang, L., Barnes, C., Herold, N., and Wickham, J., 2011. Completion of the 2006 National Land Cover Database for the Conterminous United States, PERS, Vol. 77(9):858-864. For larger image contact NHDES.



Land Cover Category	% Cover	Land Cover Category	% Cover	Land Cover Category	% Cover
Open Water	5.89	Barren Land	0	Grassland/Herbaceous	0
Developed-Open Space	4.96	Deciduous Forest	4.94	Pasture Hay	2.88
Developed-Low Intensity	3.73	Evergreen Forest	20.83	Cultivated Crops	0
Developed-Medium Intensity	0.2	Mixed Forest	47.11	Woody Wetlands	7.42
Developed-High Intensity	0	Shrub-Scrub	1.51	Emergent Wetlands	0.44

VOLUNTEER LAKE ASSESSMENT PROGRAM INDIVIDUAL LAKE REPORTS
BAPTIST POND, SPRINGFIELD, NH
2012 DATA SUMMARY

OBSERVATIONS AND RECOMMENDATIONS (*Refer to Table 1 and Historical Deep Spot Data Graphic)*

- **CHLOROPHYLL-A:** The 2012 average chlorophyll was the level lowest measured since monitoring began. Historical trend analysis indicates a relatively stable chlorophyll level since monitoring began.
- **CONDUCTIVITY/CHLORIDE:** Elevated chloride and conductivity in Stoney Brook Inlet likely a result of road salting on I-89. Conductivity was low in McAlvin Pond, but increased downstream potentially as a result of agricultural practices
- **E. COLI:** E. coli levels were well below state standards for public beaches and surface waters.
- **TOTAL PHOSPHORUS:** McAlvin Brook and Stoney Brook experienced elevated phosphorus levels. Tributary flow was low due to dry conditions which may have contributed to elevated phosphorus levels. Historical trend analysis indicated a relatively stable epilimnetic (upper water layer) phosphorus level since monitoring began.
- **TRANSPARENCY:** Deep spot transparency has remained relatively stable since monitoring began.
- **TURBIDITY:** Tributary turbidities were slightly elevated likely due to low flow conditions.
- **PH:** Average pH levels decrease to below desirable levels in the hypolimnion (lower water layer).
- **RECOMMENDED ACTIONS:** Continue bracketing McAlvin Brook to assess agricultural impacts. Continue chloride monitoring in lake and tributaries to assess impacts from I-89.

2012 Dissolved Oxygen & Temperature Profile

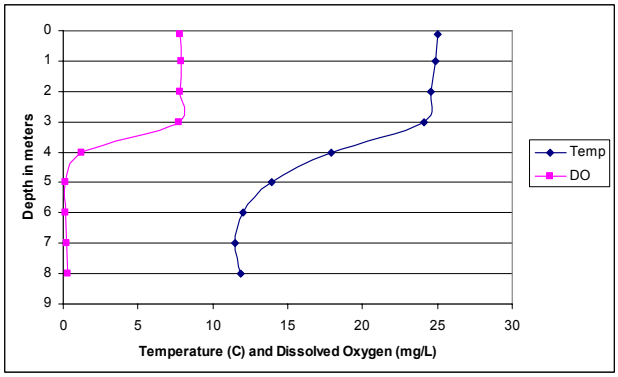


Table 1. 2012 Average Water Quality Data for BAPTIST POND

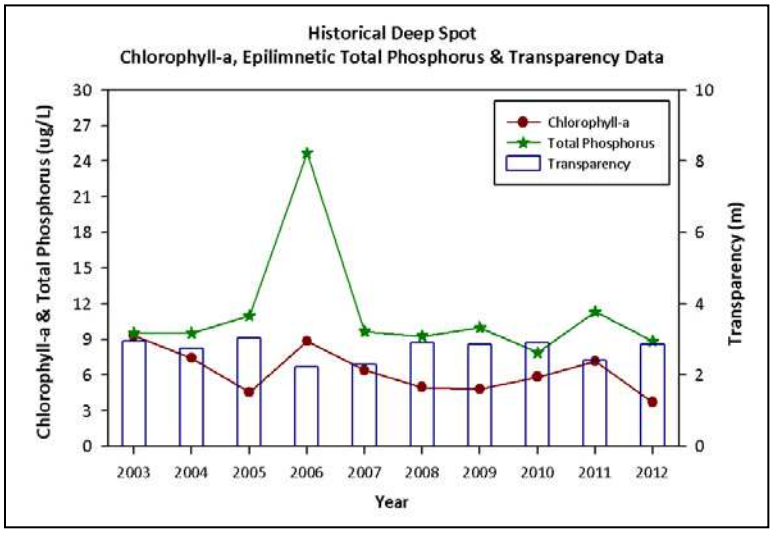
Station Name	Alk. mg/l	Chlor-a ug/l	Chloride mg/l	Cond. uS/cm	E. Coli #/100ml	Total P ug/l	Trans. m NVS	Trans. m VS	Turb. ntu	pH
Deep Epilimnion	5.77	3.69	19	111.3		9	2.86	3.17	1.15	6.67
Deep Hypolimnion				116.7		13			2.23	6.42
Mcalvin Brook				51.4		24			1.19	6.76
Mcalvin Inlet				102.3		12			0.8	6.78
Mcalvin Pond In Lake			3	22.6		15			1.35	6.45
Outlet				106.8		11			2.46	6.67
Station A					20					
Station B					10					
Stoney Brook Inlet			49	232.0	10	18			4.03	6.3

NH Median Values: Median values for specific parameters generated from historic lake monitoring data.
Alkalinity: 4.9 mg/L
Chlorophyll-a: 4.58 mg/m^3
Conductivity: 40.0 uS/cm
Chloride: 4 mg/L
Total Phosphorus: 12 ug/L
Transparency: 3.2 m
pH: 6.6

NH Water Quality Standards: Numeric criteria for specific parameters. Results exceeding criteria are considered a water quality violation.
Chloride: < 230 mg/L (chronic)
E. coli: > 88 cts/100 mL – public beach
E. coli: > 406 cts/100 mL – surface waters
Turbidity: > 10 NTU above natural level
pH: 6.5-8.0 (unless naturally occurring)

HISTORICAL WATER QUALITY TREND ANALYSIS

Parameter	Trend	Explanation
Chlorophyll-a	Stable	Data not significantly increasing or decreasing.
Transparency	Stable	Data not significantly increasing or decreasing.
Phosphorus (epilimnion)	Stable	Data not significantly increasing or decreasing.



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